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(71) Applicant: **TOSOH CORP**(72) Inventor: **OKADA MASAKI
YOSHIDA SETSUO
SAWANO MASANORI
MORI TAKASHI**

(74) Representative:

**(54) LITHIUM MANGANESE
DOUBLE OXIDE, ITS
PRODUCTION AND
APPLICATION**

(57) Abstract:

PURPOSE: To obtain a lamellar LiMnO_2 used as a positive pole material for lithium secondary battery fine and large in surface area and showing high output and high energy density, and capable of applying for various uses as a host compound without restricting the atmosphere by specifying particle diameter and BET specific surface area.

CONSTITUTION: The lamellar LiMnO_2 is composed of particles having $\leq 5\mu\text{m}$ particle diameter and $\geq 10\text{m}^2/\text{g}$ BET specific surface area. The acicular hydrated manganese oxide ($\gamma\text{-MnOOH}$) having the equivalent diameter to $\leq 1\mu\text{m}$ minor axis diameter, $\leq 5\mu\text{m}$ major axis diameter and $\leq 1\mu\text{m}$ thickness is used to synthesize the lamellar LiMnO_2 . The acicular hydrated manganese oxide is stirred in a Li containing alkaline aq. solution ≥ 1.0 in Li/Mn mol ratio and ≥ 1.0 in OH/Mn mol ratio, heated at $\leq 200^\circ\text{C}$ in an atmosphere containing oxygen and heated at $\geq 200^\circ\text{C}$ in an atmosphere containing no oxygen to remove water.



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